WORK STUDY REPORT

ON

REVIEW OF TECHNICIAN PUMP DRIVER STAFF

WORKING UNDER SSE/POWER OF

ELECTRICAL DEPARTMENT

OVER

FIROZPUR DIVISION

2019-20

WORK STUDY TEAM

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NO.16-CP/01/WS/2019-20

CENTRAL PLANNING CELL
NORTHERN RAILWAY
BARODA HOUSE, NEW DELHI

EXECUTIVE SUMMARY

This study was allotted to the Central Planning Cell, HQ Office, on the directives of SDGM/NR to identify the redundant/obsolete activities and suggest ways and means to achieve economy.

STAFF POSITION

The total sanctioned and on roll strength of Technician Pump Driver working under SSE/ power/elect over Firozpur Division is as under:-

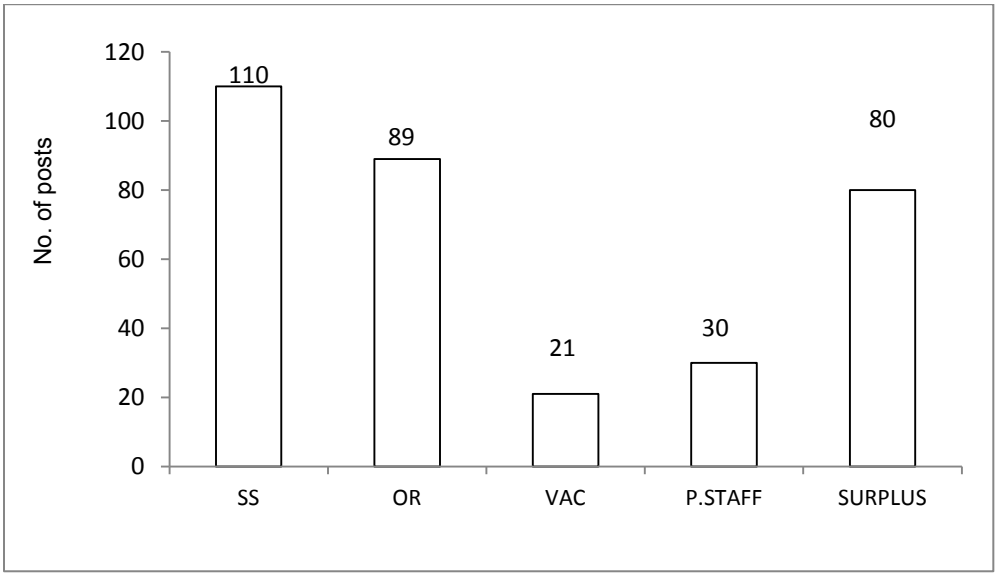
S. No.	Category	Sanctioned	On roll	Vacancy
1	Technician Pump Driver	110	89	21
Total		110	89	21

Number of posts identified as surplus and recommended for surrender.

Group 'C' = 80 posts
Group 'D' = Nil
Total = 80 posts

FINANCIAL IMPLICATIONS

Anticipated recurring saving = 607.50 Lakh per annum
Capital Saving = Nil
Total recurring saving = 607.50 Lakh per annum



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SYNOPSIS

Change is the law of nature. Everything changes with time. Sometimes, it is so slow that it is not easily visible. Sometimes it is so fast that it is easily visible. The impact of liberalization, globalization, computerization and technological advancement has brought tremendous changes in our work culture, system and society.

To keep pace with time and growth the transport sector in the country, it is imperative for railways to adopt changes in its system to survive in the globally competitive environment. Indian Railways plays a vital role not only to compete with road transport but also globally with other railways of the world.

Technological up-gradation/advancements are very essential to accomplish challenges to achieve higher productivity and economy. Consequently, railway administration conducts reviews of its assets/manpower from time to time to prove down the wasteful expenditures.

Keeping in view above, SDGM.NR assigned a work study on "Review of Technician Pump Driver over Firozpur Division" to the Central Planning Cell, HQ Office, Baroda House, New Delhi.

The work study team identified *80* posts of Technician Pump Driver as surplus over FZR Division. The zealous implementation of the recommendations made therein the report will yield a recurring saving to the tune of ₹ 607.50 lakh per annum to the administration.

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SUMMARY OF RECOMMENDATIONS

<table>
<tr><th>S. No</th><th>Recommendations</th><th>Rec. No</th><th>Refer para no.</th><th>Accepting/ Implementing authority</th></tr>
<tr><td>1</td><td>It is proposed that 80 posts of Technician Pump Drivers in different categories and grades identified as surplus under SSE/Elc/P and recommended for surrender as follows;
<table>
<tr><th>S N</th><th>Category</th><th>Grade</th><th>No of Surplus posts</th></tr>
<tr><td>1</td><td>Tech Pump Driver-MCM</td><td>9300-34800 +4200</td><td>08</td></tr>
<tr><td>2</td><td>Tech Pump Driver-I</td><td>5200-20200 +2800</td><td>40</td></tr>
<tr><td>3</td><td>Tech Pump Driver -II</td><td>5200-20200 +2400</td><td>25</td></tr>
<tr><td>4</td><td>Tech Pump Driver -III</td><td>5200-20200 +1900</td><td>07</td></tr>
<tr><td colspan="3">Total</td><td>80</td></tr>
</table>
.</td><td>1</td><td>2.6.0</td><td>ADRM/FZR
Sr.DEE/G/FZR
Sr.DPO/FZR</td></tr>
<tr><td>2.</td><td>It is proposed that automation of remaining 36 pumps which are operated manually should also be explored the operation of the pumps as may be outsourced, after automation/out sourcing of submersible pumps, 30 Technician Pump Drivers will be rendered surplus and recommended for surrender in phased manner.</td><td>2</td><td>2.6.1</td><td>ADRM/FZR
Sr.DEE/G/FZR
Sr.DPO/FZR</td></tr>
<tr><td>3</td><td>It is proposed that Joint inspections be conducted by Electrical and Engg Works Departments to prevent wastes/leakage of precious water. Users should also be counseled effectively to conserve water.</td><td>3</td><td>2.6.2</td><td>ADRM/FZR
Sr.DEE/G/FZR
Sr.DPO/FZR</td></tr>
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ACKNOWLEDGEMENT

The work study team is highly grateful to Shri Sukhvinder Singh ADRM/FZR; Sh. H.K. Sharma Sr DEE/G/FZR and Sh. Yusuf Kabir Sr.DPO/FZR & other functionaries for giving valuable guidance and providing relevant data/information to the teams during the conduct of study.

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1.0.0 **INTRODUCTION**

1.1.0 The effective management control over expenditure is one of the pre-requisites for smooth/efficient functioning of an organization. The achievement of higher productivity and good quality at minimum cost is an important aspect for survival of an organization in the prevailing competitive environment. It is also essential to provide better and affordable services to the users. All possible efforts should be made to ensure that the revenue is spent carefully over assets/ infrastructure/manpower. The Railway Administration should curtail wasteful expenditure in operational and maintenance cost so as to bring down the operating ratio, which is the prime indicator of railway finances.

1.1.1 Indian Railways are committed to be environment friendly functioning & provision of Rail transportation services at the least possible cost. Accordingly IR is implicating energy saving measures at all power consuming mode.

1.1.2 As most of the submersible pumps are operated automatically over FZR division but still the pump drivers are deployed to operate the pumps. Keeping in view, SDGM/NR directed the Central Planning Cell, HQ Office to conduct a work study on "Review of Technician Pump Drivers working under SSE/Power of electrical department over Firozpur Division" with a view to identify redundant/unproductive activities and to improve manpower productivity and economy.

1.2.0 **TERMS OF REFERENCES:**

The following terms of references have been adopted to conduct the study:-

i) To review staff strength vis-à-vis workload.
ii) To suggest ways and means to identify redundant/unproductive activities to eliminate wasteful expenditure.
iii) To suggest ways and means to improve the system economically in view of modernization and systems development.

1.3.0 **METHODOLOGY ADOPTED**

The team adopted the following work study techniques for the conduct of the study:-

i) Data collection and its critical analysis.
ii) Work sampling, analytical estimation, spot observations, physical checks and yardstick in vogue, if any.
iii) Held discussions at various levels.

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2.0.0 BRIEF DESCRIPTION, STAFF POSITION, WORKLOAD, CRITICAL ANALYSIS, REQUIREMENT OF STAFF, RECOMMENDATIONS & OBSERVATIONS

2.1.1. Indian Railways provide affordable customers oriented and eco-friendly services to rail users at an optimum level of safety, security, reliability and punctuality. Railways provide safe drinking water to rail users and employees in railway premises.

2.1.2. Firozpur Division is an important division of Northern Railway spread over the state of Punjab, Himachal & J&K, it is a buffer division for through trains between east-west and north-south. The trains are hauled both by electric and diesel locomotives.

2.1.3. Firozpur Division has its own water pumping stations at various vital stations; the water is drawn from underground or rivers through water pumps. Water is lifted to overhead tanks for further distribution for use of consumers. The operational work of water pumping stations is done by Technician Pump Drivers deployed by electrical department over the Division.

2.1.4. Earlier, water was very essential for working trains hauled by steam locos. At present, trains are hauled by electric and diesel locos. As a result of upgradations/modernization in traction, the requirement of water for hauling trains has become negligible However; huge quantity of useable/drinking water is required for ever increasing passenger traffic. Earlier, the supply of water was manual oriented but in the present scenario the supply and distribution of water is mechanized.

2.1.5. A submersible pump is designed to operate beneath the earth's surface and is completely submerged in water. In submersible motor pump sets both pump are unusually long, small diameter motor are installed deep inside the tube-well to lift underground water.

2.1.6. The submersible pumps are easy to install, having no suction trouble, no maintenance, noiseless operation, highly efficient, economical, can be controlled automatically/ GSM based operation depending upon the installation.

2.1.7. The study is confined to the Technician Pump Drivers staff working under SSE/E/FZR, It is essential to mention that the following SSE/Elect. Depots have been taken into consideration to analyze the Technician Pump Drivers of FZR Division i.e., FZR, JUC, JRC, LDH, ASR, PTK, BJPL and JAT.

2.1.8. There are about 493 submersible water pumps have been installed over FZR division at various locations for smooth supply of water for Railway colonies/stations/administrative buildings/ washing line etc.

2.2.0 STAFF POSTION OF Technician Pump Drivers:

2.2.1 During the course of study, the team collected the Sanctioned Strength and on roll position of Technician Pump Drivers from Divisional HQ FZR, which is placed as Annexure-II in the report and the summarized position of the same is tabulated as under:-

S. No.	SSE/Elect/ Depot	Category	S/S	O/R	Vacancy
1	FZR	Technician Pump Drivers	12	12	00
2	JUC		16	14	02
3	JRC		04	04	00
4	LDH		12	07	05
5	ASR		37	28	09
6	JAT		13	11	02
7	PTK		15	12	03
8	BJPL		01	01	00
Total			110	89	21

The above table reveals that on roll strength of Technician Pump Drivers working under SSE/P over FZR division comes to 89 against the sanctioned strength of 110 and 21 posts are lying vacant.

2.2.2 DUTEIS OF Technician Pump Drivers:

1) Watch/monitor the working of water pumps.
2) Operate pump in case of emergency.
3) Ensure proper upkeep of pumps, control panels etc.
4) Inform incharge the failure of pumps/power, if any.
5) Watch proper power supply i.e. Volt and ampere to water pumps.

2.2.3 The submersible water pumps are of technologically improvised version. These pumps do not require lubrication while running. They are trouble free and maintenance free. These pumps can work automatically through timers when installed on switch boards/control panels. Thus, no Pump Drivers is required when the operation of submersible water pump is automated with timer, however, Technician Pump Drivers are still being deployed over FZR division.

2.3.0 WORKLOAD

2.3.1 To assess the quantum of workload of Technician Pump Drivers, the team collected the workload i.e. number of pumps and their types, from SSE/Elect; over the FZR division which are tabulated as under:-

S.N	SSE/Elect HQ	Type wise number of water pumps					
		Submersible	Vertical	Horizontal	Auto	Manual	Total
1	FZR	116	-	-	108	08	116
2	JUC	99	-	-	98	01	99
3	JRC	17			16	00	16
4	LDH	65	-	-	61	04	65
5	ASR	69	-	-	64	05	69
6	JAT	34	-	-	31	03	34
7	PTK	46	-	-	44	02	46
8	BJPL	35	-	-	35	--	35
9	SVDK	12	-	-	--	13	13
Total		493	-	-	457	36	493

The above table reveals that a total of 493 water pumps are being operated at different locations over FZR Division. All the water pumps are submersible in nature. Out of 493 pumps 457 pumps are operated automatically and only 36 pumps are operated manually by Technician Pump Drivers. Out of 36 pumps 13 pumps are operated on AMC over USBRL section.

2.3.2 During the course of study, the team observed the average running of pumps per day. The team was apprised that at important stations the pumps run for about 15-20 hours per day. At road side stations the pumps work according to local requirements. The pumps are generally operated from 06:00 to 10:00 hrs= 4 hours, 12:00 to 14:00 hrs=2 hrs and 18:00 to 20:00 hrs= 2 hours, total 8 hours in a day.

2.4.0 CRITICAL ANALYSIS

2.4.1 The study is limited to the review of Technician Pump Drivers working over FZR division. The total sanctioned strength of Technician Pump Drivers in different grades working under different SSE/SE (Elect.) at the various locations is 110 posts. The on roll strength is 89 posts and 21 posts are lying vacant. Category of Technician Pump Drivers has been declared as shrinking category.

Mostly, the Technician Pump Drivers are being deployed in 8/12 hours broken shifts, round the clock to operate and look after water pumps.

2.4.2 The vertical and horizontal spindle type pumps are old designed and based on ground level, require timely lubrication of gears for smooth running, regular monitoring and presence of manpower and are replaced by submersible pumps.

2.4.3 In order to achieve increased productivity, the technological changes are needed both for system and assets. Huge recurring expenditure is incurred for functioning of systems of an organization on deployment of manpower to operate the assets. The technological up-gradations require incurring of huge capital expenditure.

2.4.4 There are about 493 submersible water pumps installed at various locations over FZR division. In the series of modernization and adoption of technological up-gradations, Firozpur Division of Northern Railway has already installed improvised system where **457 submersible water pumps are operated through automatic control panels installed in nearest sub-stations/power house/pump house, which are operated automatically/GSM based pump motor controller with cell phone from remote location but the Pump Drivers staff are still deployed which should be rendered surplus.** During the discussion with concerned functionaries, the team stressed that the same system be introduced by installing centralized/automatic switch boards in concerned substation for connecting the operational system of remaining submersible water pumps.

2.4.5 Automization of water pumps, which are time set according to the local requirement, have already been introduced and working successfully at various locations over FZR Division. In such arrangements, control panels are provided at pump houses which are looked by the technicians from time to time as required to avoid break down. Technician Pump Drivers are not required in such arrangements.

2.4.6 With the introduction of above provision, 80 posts of Technician Pump Drivers will be rendered surplus. In other words, technological improvisation/upgradations in water pump operation over the division will result into reduction of manpower and consequently reduction in expenditure in establishment charges.

2.5.0: During the conduct of study the work study team has taken into consideration the deployment of staff, workload held discussion at various levels, adoption of technological advancement and out sourcing in the system, while proposing the requirement of staff, location wise proposed requirement of staff is discussed as under:

2.5.1 SSE/ELECT FIROZPUR.

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
Power house,	15	11	--	--
DRM Office,			--	--
double story			--	--
loco shed,		--	01	01
Basti,		--	02	02
Hospital		--	01	01
Fazilka station	03	02	01	01
FKA-ABS Section	04	04	--	--
Jalalabad station &	04	04	--	--
FZR-FKA Section	12	12	--	--
FKA-Muktsar	11	10	01	01
LNK Pump house	02	--	02	02
FZR-LNK Section	20	20	--	--
MXH	01	01	--	--
Moga Pump House	01	01	--	--
Moga FZR Section	20	20	--	--
KKP substation &	02	02	--	--
KKP-MQS	04	04	--	--
FZR-BTI Section	17	17		--
Total	116	108	08	08
LR @ 12.5%				1.00
RG @ 16.5%				1.32
Total				10.32 Say10

2.5.2 SSE/ELECT/JUC

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
JUC Power house, DMU Shed colony No.2,	} 10 --	} 09 --	-- 01	-- 01
TDO pump house & JUC –TDO section	01 18	01 18	-- --	-- --
KXH Pump House, JUC-LNK JUC- Nakodar	01 16 09	01 16 09	-- -- --	-- -- --
Beas sub station	04	04	--	--
JUC-Beas & Beas- GWSB section, KRE Pump House	11 04 02	-- -- --	-- -- --	-- -- --
PGW-Station, PGW-GRY section, PGW-JRC Section	02 03 04	-- -- --	-- -- --	-- -- --
NSS Pump House, NSS-JJJ, NSS-Rahon, NSS-PGW	02 03 01 09	-- -- -- --	-- -- -- --	-- -- -- --
Total	99	98	01	1.00
LR @ 12.5%				0.12
RG @ 16.5%				0.16
Total				1.28 say 01

2.5.3 SSE/ELECT/JRC

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
JRC sub station	01	01	--	--
Bridge WS JRC & Sub Station	} 03	03	--	--
JRC-HSX section	11	11	--	--
HSX pump House	02	02	--	--
Total	16	16	--	--
LR @ 12.5%				0.0
RG @ 16.5%				0.0
Total				Nil

2.5.4 SSE/ELECT/LDH

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
LDH Power house, Loco shed, DSL Shed.	} 23	23	--	--
JGN Pump House, Ludhiana –Moga	01 13	-- 13	01 --	01 --
SNL Pump House, DDL-station	03 01	03 01	-- 01	-- 01
LDH-GRY	04	02	--	--
NRO Pump House, NRO-LNK section	02 07	-- 07	-- --	-- --
Phillor (PHR), LDH-NRO Section	02 08	-- 08	02 --	02 --
Total	65	61	04	4.0
LR @ 12.5%				0.5
RG @ 16.5%				0.66
Total				5.16 Say 05

2.5.5 SSE/ELECT/ASR

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
ASR Power house, ASR Workshop, B-Block colony	27	27	--	--
A-Block colony	01	--	01	01
Khalsa college colony.	01	01	--	--
Khalsa college colony.	01	--	01	01
ATT Power House	02	02	--	--
ASR-ATT section	05	05	--	--
PAT Pump House,	01	--	01	01
ASR-KEMK Section	10	10	--	--
JNL Pump House	01	--	01	01
DBNK Pump House	01	01	--	--
ASR-DBNK Section	01	01	--	--
TRA Pump House	01	--	01	01
BTR Pump house	01	01	--	--
ASR-Beas section	09	09	--	--
BAT Station,	01	01	--	--
BAT-VKA	05	05	--	--
BAT Quadian	01	01	--	--
Total	69	64	05	5.0
LR @ 12.5%				0.62
RG @ 16.5%				0.82
Total				6.44 Say 06

2.5.6 SSE/ELECT/PTK:

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
PTK Power House DSL Shed	} 10	10	--	--
PTKC	03	01	02	02
PTK-KATHUA section	01	01	--	-
KTHU	01	01	--	--
MAPB	01	01	--	--
SJNP	01	01	--	--
MEX	01	01	--	--
DZA	01	01	--	--
PTK-TDO section	15	15	--	--
GSP	01	01	--	--
BHRL Pump House	01	01	--	--
BHRL-BAT section	10	10	--	--
Total	46	44	02	02
LR @ 12.5%				0.25
RG @ 16.5%				0.33
Total				2.58 Say 03

2.5.7 SSE/ELECT/BJPL:

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
BJPL	02	02	--	--
PLMX	04	04	--	--
PTK-JDNX N/G section	29	29	--	--
Total	35	35	--	Nil

2.5.8 SSE/ELECT/JAT/UHP

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
JAT Power house, 33 KV substation, washing line, sick line, PRS	12	12	--	--
BBMN pump house,	01	01	--	--
SMBX pump house	01	01	--	--
JAT-KTHU section	10	10	--	--
UHP Power house	02	02	--	--
Tawi River bed pump	01	--	01	01
UHP-JAT section	04	04	--	--
MNWL Sub station	02	--	02	02
Patnitop ORH	01	01	--	--
Total pump	34	31	03	03
JAT, Being a pilgrimage important station, No of Tech Pump Driver Proposed				02
Total				05
LR @ 12.5%				0.62
RG @ 16.5%				0.82
Total				6.44 Say 06

2.5.9 SSE/ELECT/SVDK:

Locations	Total No. of submersible water pump	Mode of Operation		Proposed staff
		Auto	Manual	
USBRL section	13	--	13	-- All pumps on AMC

2.6.0 Depot wise summarized position of existing sanction, proposed staff and surplus/shortage over FZR division is as under

S No	Depot/ SSE/P	S/S	Proposed staff	Surplus (+) / Shortage(-)
1	FZR	12	10	+02
2	JUC	16	01	+05
3	JRC	04	00	+04
4	LDH	12	05	+07
5	ASR	37	05	+32
6	JAT	13	06	+07
7	PTK	15	03	+12
8	BJPL	01	00	+01
Total		110	30	+80

The above table reveals that the proposed requirement of Technician Pump Drivers comes to 30 against the sanction strength of 110 and 80 posts of Technician Pump Drivers are identified as surplus and recommended for surrender.

Recommendation No.1

It is proposed that 80 posts of Technician Pump Drivers in different categories and grades identified as surplus under SSE/Elc/P and recommended for surrender as follows;

S No	Category	Grade	No of surplus posts
1	Tech Pump Drivers MCM	9300-34800+4200	08
2	Tech Pump Drivers-I	5200-20200+2800	40
3	Tech Pump Drivers-II	5200-20200+2400	25
4	Tech Pump Drivers-III	5200-20200+1900	07
Total			80

2.6.0. **Suggestion:**

2.6.1. During the conduct of work study it is observed that a total of 493 water pumps are being operated at different locations over FZR Division. All the water pumps are submersible in nature. Out of 493 pumps 457 pumps are operated automated and only 36 pumps are operated manually by Technician Pump Drivers. Out of 36 pumps 13 pumps are operated on AMC.

It is suggested that out of 493 pumps remaining 36 pumps should be automized and 30 staff proposed for non automized pumps proposed for manual operation should be rendered surplus after automization.

2.6.2 **GENERAL OBSERVATIONS**

During the course of study, the team was apprised that there is a heavy water leakage of water from over head tanks, supply pipe lines, water taps and is mis-utilized while washing platform/tracks without water jets and washing trains in washing lines without jet pumps etc. As a result, the water level is receding, water pumps, have to over work. Break down are frequent, more electricity is consumed and payment of bills are higher etc,

The team observed that the water supplied to users is for limited period of time. The water taps are often missing or kept open all the time to receive supply of water as quickly as possible. This is a cause of wastage of precious natural resource. This also creates extra burden/pressure on electrical and works department, as well as water pumps. The team opines that the wastage of water should be checked/prevented through joint inspections of Electrical and Engg (Works) Departments and users also be counseled to conserve water.

Recommendation No.2

It is proposed that joint inspections should be conducted by Electrical and Engg Works Department to prevent wastage/leakage of precious water. Users should also be counseled effectively to conserve water.

2.7.0 Detail of contractual works and Annual expenditure for "Annual operation & comprehensive maintenance control for electrical assets at Katra Railway Station, SOOL and Mand for one year on USBRL project of Northern Railway over FZR Division awarded vide Sr DEE/G/FZR letter No 261-Elect/C-71/2017-18 dt 16.02.2018:

S N	Description of work	Amount/yr in ■
1	Comprehensive maintenance and round the clock operation of 33/11 KV substation along with 33KV switch yard, 33 KV and control panel, battery charger, 110 volt battery bank, HT panel with 2 No I/C and 2 No O/G and 11 KV ring main system etc	805450/-
2	Comprehensive maintenance and round the clock operation of 11/0 415 volt 2x1250 KVA substation along with 500 KVA DG set, AMF panel, 400 KVAR APFC pane, HT panel (1+3) LT panels with 38 outgoing control switch gears, metering panel, voltage stabilizer and cabling etc	680850/-
3	Comprehensive maintenance and round the clock operation of 11/0415 KV 2x500 KVA substation along with 250KVA DG set and AMF panel, HT panel, LT panel with 15 outgoing control switch gears, 500 KVALT servo stabilizer, 150 KVAR APFC panel etc	613210/-
4	Comprehensive maintenance and round the clock operation of 11/0415 KV 2x750 KVA substation along with HT panel, LT panel with 20 outgoing control switch gears, LT servo stabilizer 150 KVAR APFC panel etc.	588290/-
5	Substation and pumping installation at Mand. Comprehensive maintenance and round the clock operation of **4 No 20 HP submersible pumping set**, **3 No 150 HP Booster pumping set** with automatic star delta starter. 7 KVAR APFC Panel 4No, 25KVAR APFC Panel 3 NO & Main starting LT panel 3 No 250 KVA outdoor transformer, 2No 63 KVA transformers & one No 160 KV DG set with AMF panel for Katra Railway station.	677290/-
6	Substation & pumping installation at Sool. Comprehensive maintenance and round the clock operation of **3 No 175 HP Booster Pumping set** with Manual star delta starter, 100 KVAR APFC panel, 3No main & starting LT panels for controlling power supply of **175 HP Booster pumps 2 No**, 630 KVA outdoor transformer, 2 No 630 KVA LT Servo voltage Stabilizer &	721790/-

	<u>one No 320 KVA DG set without AMF panel etc at Sool watering installation for Katra Rly Station</u>.	
7	Station building indoor/outdoor installation, Comprehensive maintenance of electrical installation of Katra station building indoor/outdoor, PFs, covered pathways, washing line, sick line, RPF/GRP post and barracks, PRS, running room, Station yard, street lights, service building and other Rly offices etc.	1024390/
Total		5750178/-

From the above table it is revealed that Annual expenditure is ■ 5750178/- for "Annual operation & comprehensive maintenance control for electrical assets at Katra Railway Station, SOOL and Mand for one year on USBRL project of Northern Railway over FZR Division.

3.0.0 **FINANCIAL IMPLICATIONS**

S N	Category	Pay Scale + Grade Pay	Refer Recom. No	No. of surplus posts	Monthly value per posts in ■	Anticipated annual recurring saving in■
1	Tech Pump Drivers MCM	9300-34800+ 4200 (L-6)	2.6	08	80551/-	7732896/-
2	Tech Pump Drivers -I	5200-20200+ 2800 (L-5)		40	66218/-	31784640/-
3	Tech Pump Drivers -II	5200-20200+ 2400 (L-4)		25	58097/-	17429100/-
4	Tech Pump Drivers -III	5200-20200+ 1900 (L-2)		07	45290/-	3804360/-
Total				80		60750996/-

Group 'C'= 80 posts

Group 'D'= NIL posts

Total = 80 posts

Anticipated recurring saving = ■ 607.50 lakh per annum

Capital saving = Nil

Total saving = ■607.50 lakh per annum

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4.0.0 PRODUCTIVITY

4.1.0 The total annual expenditure on Sanctioned establishment of Tech Pump Drivers working under SSE/Elect/P FZR, JUC, JRC, LDH, ASR, PTK, BJPL & JAT of FZR Division.

SN	Category	Pay Scale + Grade Pay	Monthly value per posts in ■	Sanctioned strength	Total annual expenditure in ■
1	Tech Pump Drivers MCM	9300-34800+ 4200 (L-6)	80551/-	11	10632732/-
2	Tech Pump Drivers -I	5200-20200+ 2800 (L-5)	66218/-	55	43703880/-
3	Tech Pump Drivers -II	5200-20200+ 2400 (L-4)	58097/-	34	23703576/-
4	Tech Pump Drivers -III	5200-20200+ 1900 (L-2)	45290/-	10	5434800/-
Total				110	83474988/-

The above table reveals that the railway incurs ■ 83474988/-per annum on the sanctioned strength of 110 posts of Tech Pump Drivers staff.

4.1.1 Anticipated expenditure required for proposed Tech Pump Drivers staff under SSE/Elect/P. FZR, JUC, JRC, LDH, ASR, PTK, BJPL & JAT of FZR Division

SN	Category	Pay Scale + Grade Pay	Monthly value per posts in ■	Proposed staff	Total annual expenditure in ■
1	Tech Pump Drivers MCM	9300-34800+ 4200 (L-6)	80551/-	03	2899836/-
2	Tech Pump Drivers -I	5200-20200+ 2800 (L-5)	66218/-	15	11919240/-
3	Tech Pump Drivers -II	5200-20200+ 2400 (L-4)	58097/-	09	6274476/-
4	Tech Pump Drivers -III	5200-20200+ 1900 (L-2)	45290/-	03	1630440/-
Total				30	22723992/-

The above table reflects that after the implementation of the work study report, the annual expenditure on the proposed staff will come to■ 22723992/-. Therefore the annual expenditure will be reduced from■ 83474988/-to ■ 22723992/-

WORK STUDY REPORT DETAILED CHART

Department : - **Electrical**

Name of study : - Review Tech Pump Drivers staff working under SSE/Elect. FZR, JUC, LDH, ASR, JAT, UHP & SVDK of FZR Division.

Activity Centre : - SSE/Elect. FZR, JUC, JRC, LDH, ASR, JAT/UHP, PTK & BJPL.

SN	Sub activity	Brief Description of workload	Actual staff deployed	Work Study recommendation	Representative workload
1	FZR, JUC, JRC, LDH, ASR, JAT/ UHP, PTK & BJPL	To operate water pumps	S/S= 110 O/R= 89 Vac.=21	S/S = 110 Proposed staff= 30 Posts identified as surplus = 80	To operate water pumps

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LIST OF ANNEXURES

S.N.	Description	Annexure No.
1	Authority Letter No. 16-CP/WS/18 /2018-19 dt.01.06.2018.	I
2	Statement showing category wise, grade wise sanctioned strength and on roll position of Tech Pump Drivers staff over FZR Division	II
3	Statement showing workload of Tech Pump Drivers working under SSE/Elect.FZR, JUC, JRC, LDH, ASR, JAT, PTK, BJPL & SVDK of FZR Division.	III

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Annexure No. I

Annexure No.II

Statement showing category & grade wise sanction and on roll position of Tech Pump Drivers working under SSE/Elect. FZR, JUC, LDH, ASR, JAT & PTK of FZR Division.

S. No.	SSE/El/ Depot	Tech Pump Drivers -MCM 9300-34800-4200		Tech Pump Drivers -I 5200-20200+ 2800		Tech Pump Drivers –II 5200-20200+ 2400		Tech Pump Drivers –III 5200-20200+ 1900		Total		
		S/S	O/R	S/S	O/R	S/S	O/R	S/S	O/R	S/S	O/R	Var
1	FZR	02	02	07	07	03	03	00	02	12	12	00
2	JUC	01	00	08	06	05	03	02	05	16	14	02
3	JRC	00	00	03	03	00	00	01	01	04	04	00
4	LDH	00	00	07	04	05	03	00	02	12	07	05
5	ASR	06	06	21	11	07	07	03	04	37	28	09
6	JAT	00	00	04	03	07	05	02	03	13	11	02
7	PTK	02	02	05	03	06	06	02	01	15	12	03
8	BJPL	00	00	00	00	01	01	00	00	01	01	00
Total		11	10	55	37	34	28	10	18	110	89	21

Annexure No.III

Statement showing Detail of Water Pumps under SSE/Elect. FZR, JUC, LDH, ASR, JAT, PTK, UHP & SVDK of FZR Division.

S.N	SSE/Elect HQ	Type wise number of water pumps					
		Submersible	Vertical	Horizontal	Auto	Manual	Total
1	FZR	116	-	-	108	08	116
2	JUC	99	-	-	98	01	99
3	JRC	17			16	00	16
4	LDH	65	-	-	61	04	65
5	ASR	69	-	-	64	05	69
6	JAT	34	-	-	31	03	34
7	PTK	46	-	-	44	02	46
8	BJPL	35	-	-	35	--	35
9	SVDK	12	-	-	--	13	13
Total		493	-	-	457	36	493

Salient features of work study report No. 16-CP-18/WS/2018-19

Sub: "Work study report on review of Tech Pump Drivers staff working under SSE/P/Elc over FZR division"

1. Staff Position:

i) Sanctioned strength of Tech Pump Drivers = 110
ii) On roll strength =89
iii) Vacancy =21
iv) Proposed staff = 30
v) Identified as surplus for surrender = 80

2. Total of 493 water pumps are being operated over FZR Division. All the water pumps are submersible in nature. Out of 493 pumps 457 pumps are operated automatically and only 36 submersible pumps are operated manually may be outsourced, further out of 36 pumps 13 p[umps are operated on AMC basis at USBRL section.

3. Category of Technician Pump Drivers has been declared as shrinking category.

4. GPS system and Automization of water pumps, time set according to the local requirement, have been introduced.

5. A considerable work is being carried out on AMC basis and annual expenditure is ₹5750178/-for "Annual operation & comprehensive maintenance control for electrical assets at Katra Railway Station, SOOL and Mand for one year on USBRL project of Northern Railway over FZR Division".

6. Financial implication:

Anticipated recurring saving	= ₹ 607.50 lakh per annum
Capital saving	= Nil
Total saving	= ₹ 607.50 lakh per annum